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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,489	08/29/2001	Paulo Sergio Bon	D-20,946	4838
27182	7590	03/12/2004	EXAMINER	
PRAXAIR, INC. LAW DEPARTMENT - M1 557 39 OLD RIDGEBURY ROAD DANBURY, CT 06810-5113			CHORBAJI, MONZER R	
			ART UNIT	PAPER NUMBER
			1744	

DATE MAILED: 03/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/940,489

Applicant(s)

BON ET AL.

Examiner

MONZER R CHORBAJI

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>03/03/04</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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4. Claims 1-4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasting, Jr. et al (U.S.P.N. 5,368,815) in view of Cox et al (U.S.P.N. 5,431,939) and further in view of Ishida (JP 405277475A).

With respect to claim 1, Kasting, Jr. et al teaches a method for sanitizing (col.1, lines 6-9) including the following: injecting gaseous stream of ozone into steam of water (col.2, lines 36-40), feeding aqueous ozone into a tank (col.4, lines 19-22), which has a space above the liquid (figure 1, 12, inlet 14 and outlet 24 have space above them) such that ozone molecules in water would evaporate into the gas above the liquid and become ozone molecules in gaseous state, applying ozonated solution onto a surface (figure 2, 72 and 74), and recovering solution for recycling purposes (figure 2, 24). In addition, Kasting, Jr. et al does generate ozone from oxygen but does not specify the purity. However, with respect to claim 1, Kasting, Jr. et al fails to teach manufacturing ozone from oxygen with at least 90 volume percent and pH monitoring means. Cox et al teaches manufacturing ozone from oxygen with at least 90 volume percent (col.24, lines 52-57). However, Cox et al fails to disclose pH monitoring means. Ishida teaches providing an aqueous solution with a pH range of 7 to 9 such that a pH monitoring means are utilized (abstract, lines 16-22). Thus, it would have been obvious to one having ordinary skill in the art to modify the method of Kasting, Jr. et al. to include a pH monitoring means in order to improve ozone processing efficiency by ensuring that the pH value in an ozone reaction tower is controlled more stably than ever (JP 405277475A, abstract, lines 1-3).

With respect to claims 2, 4, and 7, Kasting, Jr. et al teaches the following: the source of water is a storage vessel (figure 2, 12), injecting ozone into water to achieve 1% to 15% w/w ozone, and having an ozonated water in the storage tank with a certain concentration range is a matter of routine experimentation depending on how much a surface needs to be sanitized, for example, a surface with a greater number of soil would require more concentrated ozonated water than a surface with less soil.

With respect to claim 3, Ishida teaches a tank with a sensor for adjusting the pH by adding an alkaline material to the water (abstract, lines 16-21).

5. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasting, Jr. et al (U.S.P.N. 5,368,815) in view of Cox et al (U.S.P.N. 5,431,939) and further in view of Ishida (JP 405277475A) and Silberzahn (U.S.P.N. 4,409,188).

With respect to claims 5-6, Kasting, Jr. et al, Cox et al, and Ishida fail to teach the use of a vent in the tank and an ozone destroyer. However, Silberzahn teaches use of a vent in the tank (figure 1, 39) and an ozone destroyer (figure 1, 29, 10, 40, and col.5, lines 43-45). Thus, it would have been obvious to one having ordinary skill in the art to modify the method of Kasting, Jr. et al to include an ozone destroyer associated with a vent so that no harmful effects on the environment occur (Silberzahn, col.5, lines 44-45).

### ***Conclusion***


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONZER R CHORBAJI whose telephone number is (571) 272-1271. The examiner can normally be reached on M-F 8:30-5:00.

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7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ROBERT J WARDEN can be reached on (571) 272-1281. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Monzer R. Chorbaji MRC  
Patent Examiner  
AU 1744  
03/03/04

  
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